CONTENTS

Article — *Page 9*
Tells how to improve family diets with more protective foods

Story — *Page 10*
Reveals role of diet in Coast Guard Academy health program

Digests—*Page 10*
Report briefly some new research

Study — *Page 11*
Analyzes milk-drinking habits of high school boys and girls

Plan — *Page 11*
Offers a solution to an important teaching problem

News — *Page 11*
Presents items of interest to everyone

Books — *Page 12*
These should be on your "must" list

IS AMERICA WELL FED?

By HAZEL K. STIEBELING, Ph. D.
Bureau of Home Economics
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We often point with pride to the abundance and variety of our food supply as compared with most other countries. Broad acres, rich diversity of climate and soil, and modern methods of production, processing, and marketing can provide us with plenty of food and make available the year around many things that once were only local or seasonal.

Diets that meet nutritionists' specifications differ from average diets in that they include larger quantities of protective foods: dairy products, eggs, leafy, green, and yellow vegetables, and fruits. These foods are noted for their calcium, iron, vitamin A value, vitamin C, and for other nutrients not plentiful in everyday diets.

Recent estimates of the Department of Agriculture place the apparent yearly per capita consumption of these protective foods as follows:

Milk (including some from which only cream is used and the equivalent of cheese and other forms of milk)	184 quarts
Butter	17 pounds
Eggs	20 dozen
Succulent vegetables and fruits (in terms of fresh)	380 pounds

These averages would furnish about one serving each of fruit and succulent vegetables (other than potatoes and mature beans or peas) a person a day, 4 to 5 eggs a person a week, and the equivalent of about a pint of milk a person daily. Compare these quantities with the 36 dozens of eggs needed to give an egg a person a day, or with the average of 260 quarts of milk a head a year needed to furnish a quart for every growing child, each expectant and nursing mother, and a pint for each other adult, or with the 500 pounds or more of succulent vegetables and fruits usally found in present day diets that are rated good in all other respects as well.

Doctor Stiebeling

It is not that people do not enjoy protective foods. In fact, their purchases of these foods increase rapidly as incomes rise. Thus, according to recent nationwide studies, city and village families bought about the average quantities of eggs, butter, milk and leafy green vegetables when they had about $3.00 a person a week for food, while when they had only $1.50 a week for the food of each person, they brought per head per year:

Milk, including the equivalent of cheese and other forms of milk	100 quarts
Butter	9 pounds
Eggs	13 dozen
Leafy green and yellow vegetables, tomatoes and citrus fruits	100 pounds

(Continued on Page Twelve)

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Food MAKES A DIFFERENCE

A TRUE STORY

Service in the United States Coast Guard calls for strong bodies and alert minds. Preparation for such service requires rigid training toward this end. Adequate diet plays an important part in the cadets' training schedule.

The United States Coast Guard has been called, picturesquely, "The Navy of Mercy." It was founded in 1790 by Alexander Hamilton, with six small sailing boats. The duties of the Coast Guard are to save life and to uphold America's maritime laws.

The average American citizen has little realization of the varied occupations of the Coast Guard. In 24 hours, a panoramic picture of Coast Guard activities might include: plotting the position and drift of icebergs; locating smuggling planes; rescuing shipwrecked persons; giving medical aid to vessels at sea; guarding seals in migration; engaging in flood relief; flying ambulance service; plane reporting service; carrying the United States mails in Alaska and elsewhere.

These are only a few of the valuable services rendered by the Coast Guard. In the past 16 years the Service has saved 4,000 lives a year and assisted 8,000 vessels a year.

The first officers of the Coast Guard Service were commissioned from those who had served in the Continental Navy during the Revolutionary War. A school for the training of officers was established in 1876 and has been located in New London, Connecticut since 1910. The years which have elapsed since the United States Coast Guard Academy was established have brought many changes which demand a sound education in such subjects as engineering, civil and international law, and navigation.

Flying ambulance service—an important activity of the Coast Guard.

Cadets are chosen by competitive examination open to those who are able to meet the high physical and mental standards of the Academy. The duties of the Service demand exceptional vigor. No candidate under five feet six inches tall or over six feet four inches is accepted. Chest measurements and weight are checked.

Milk for Physical Fitness

A minimum of four hours a week for all cadets is required in athletics, for physical fitness is considered a prime requisite in preparation for the strenuous work that the officers of the Service are required to undertake throughout their careers. Complete medical attention is given by a staff of full-time physicians with an adequate complement of pharmacists and nurses.

Diet is closely supervised and all menus are checked by a medical officer. Each cadet is served one and one-fifth pints of milk daily, on the average, for drinking purposes alone. Other protective foods form an important part of the diet. For example, 276 dozen eggs are consumed by the 138 members of the Cadet Corps during a 30-day month. A detailed health record including data relative to changes in height and weight is kept for each cadet for the entire four years.

The Coast Guard Academy relies upon a program of adequate diet and physical training to help it fulfill its mission, which is: "To graduate young men with sound bodies, stout hearts, and alert minds with a liking for the sea and its lore, and with that high sense of honor, loyalty and obedience which goes with trained initiative and leadership; well grounded in seamanship, the sciences and the amenities, and strong in the resolve to be worthy of the traditions of the commissioned officers in the United States Coast Guard in the service of their country and humanity."

Knowledge of the food requirements of children for optimum health and growth is best obtained by experiments such as those reported here.

A study of the diet of children in Buganda, East Africa, showed that the consumption of milk, meat, and fish was negligible. In two series of experiments the consumption of $\frac{1}{2}$ pint of milk daily resulted in much greater gains in height and weight than those of control boys receiving no milk. The percentage gains in height for the two experiments were 3.57 and 3.52 for the milk group, and 2.47 and 2.66 for the control group over a period of about 150 days.

An extensive study of dental caries in over 4000 elementary school children has revealed that girls seem to have more tooth decay than boys of the same age because their teeth erupt earlier and are therefore exposed longer to attack by caries. The study also establishes the existence of a similarity in caries experience of children in the same family, but no explanation of this is offered.

The Milk-in-Schools Scheme in England has proved again that "milk makes a difference." 8,000 children were grouped so that 2,000 received no milk, 2,000 received $\frac{1}{3}$ pint of milk daily, and 4,000 received $\frac{2}{3}$ pint of milk daily. Medical examinations showed that after a period of 1 year, the group with the large milk supplement had gained 4 to 6% more in height and 9 to 10% more in weight than the group receiving no milk.

Increasing the amount of vitamin B_1 and iron in the diet of groups of orphanage children during periods of 7 to 18 months resulted in an accelerated rate of growth and increased hemoglobin content of the blood. The estimated amount of iron in the institution diet was 11 mg. per day while the use of the experimental diet raised it to 29 mg. per day.

A SCIENTIFIC STUDY

By Dr. Paul F. Lazarsfeld
Now Research Associate
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In a psychological study of milk drinking habits among young people, it was our aim to survey the habits of high school children in reference to milk and other beverages; to study especially those who dislike milk or do not drink milk; and to describe and explain the reasons for dislike.

The study, which was done from the University of Newark, comprised three steps: a questionnaire answered by 5,227 boys and girls between the ages of 11 and 18 in three New York City high schools; interviews with 415 of the children who reported that they disliked milk; and interviews with 217 of their mothers. We also interviewed 100 children who liked milk but did not drink it. In the limited space available here only the most important findings from the questionnaires can be reported.

Plain milk is a favorite beverage of both boys and girls, 41.5% of the boys and 39.2% of the girls preferring plain milk on all occasions at which a beverage can be consumed. These percentages were greater than for any other beverage. In general, the boys drank more milk than the girls; boys were found to drink 2.7 glasses of milk daily on the average, girls 2.2 glasses.

Occasions on which milk is taken most are when the children come home from school and when they have lunch at home. 53% of the children drink milk with lunch at home, although only 40% of them drink milk when they have lunch at school.

Influence of Age

As young people grow older, the amount of milk drunk decreases steadily from year to year. About 30% less milk is consumed at 18 years than at 13. The greatest change is in the amount of milk drunk with breakfast and at visits outside the home.

Results of the questionnaire showed very definitely that **liking** milk and **drinking** milk usually do not have exactly the same meaning. 95.9% of the boys and 87.5% of the girls declared that they liked milk. Many of them however do not drink milk regularly for various reasons, such as: not wanting to gain weight; or because they want to be grown-up.

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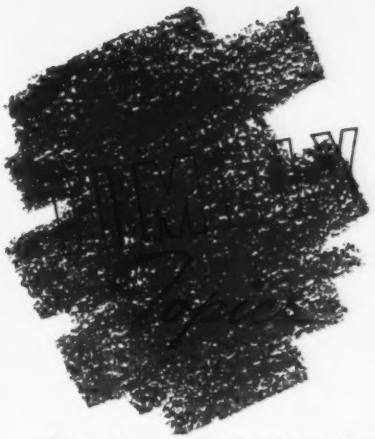

Prevention of Tooth Decay—Preventing tooth decay is the job of the patient, declared Dr. Nina Simmonds of the University of California School of Dentistry at the recent meeting of the American Public Health Association. Each individual must control his diet, making sure that it contains adequate amounts of all food essentials, and as few sweets as possible. Although the cause of tooth decay is a complex problem, Dr. Simmonds believes that it will soon be solved by research.

Build of Women and Mortality—Investigations on relation of height and weight of women to the death rate have revealed that the most favorable mortality in ages under 40 is found among groups of average weight and up to 24% overweight. At ages over 40 the best mortality is found among those who are under average weight. Medium height and tall women showed a more favorable mortality rate than short women in all age groups.

Normal Nutrition—Dr. J. D. Boyd suggested recently that "our present standards of normality of growth should be considered as average under imperfect nutritional conditions rather than optimum." Deficiencies in vitamin D and calcium are the most common, and these deficiencies affect growth and dental caries. Deficiency in vitamin B_1 is probably more widespread than it is commonly thought to be. There is a great need for laboratory findings to be translated into simple terms of milk, meat, vegetables, fruits and cod liver oil so the average person will learn what foods are essential in balanced nutrition and come to desire them.

A PRACTICAL PLAN

By Miss Florence Beatty
Supervisor of Household Arts
Milwaukee Public Schools

The old adage, "Every cloud has a silver lining," would seem to apply to the progress of home economics education, for from the darkest periods of recent American history it has received the impetus to explore new fields, and thus to grow in service and value to the nation.

The World War dramatically illustrated the layman's ignorance of nutritional knowledge, when it was found that many apparently healthy young men could not qualify for military service, because of weaknesses due to faulty diet habits. Home economists adopted health as their great objective, and, while much remains to be done, they have made the country food conscious.

The depression, however, really opened their eyes. This does not mean that all home economics training was impractical, for women of vision have always been mindful of home conditions. Even in classes where standards were far beyond the attainment of the groups represented, they were extremely fruitful in developing skills and in showing visions of what home life could be. However, home economics, because it deals with life situations, has a greater opportunity than any other field to develop the modern educational program of "teaching the child and not the subject." Yet this very closeness to daily living makes its presentation difficult, for there is no harder task than changing everyday habits and tastes.

The secret, of course, is to begin at the level of the average families in the community and gradually present better ways and methods, which are not too difficult of attainment. Theoretically, the problem has been solved by making family relationships the core subject, but practically the classroom teacher has the real problem of learning what the average home situations are, and of checking her work constantly to see how much of what she teaches is actually functioning in the lives of her charges.

This information can be obtained from welfare agencies, school nurses, and civic groups in large cities, when family standards are not known. It can be obtained indirectly from children through questionnaires, multiple choice tests, and in class recitation. For example, if the children figure the

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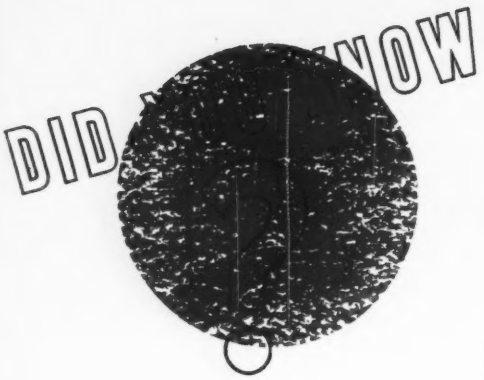

—that an unusual old Athenian cup is shaped like a cow's hoof? This cup has been acquired by the Metropolitan Museum of Art in New York City.

—that in the warm regions of Guatemala, the native cheese is sold by the bottle? The hot temperature keeps the cheese in a liquid state.

—that Grade "A" pasteurized milk in now available in some local markets of Alaska? The only pasteurizing plant in Alaska produces about 400 gallons of pasteurized milk daily.

—that in ancient Rome, butter was a delicacy known only to the rich? It was said that butter conserved one's strength.

—that although the cow is sacred in India, milk consumption in that country is extremely low?

—that ice cream was the favorite royal dessert of the French monarchs? Ice cream is now America's favorite dessert.

—that in certain sections of Switzerland it is customary to make a wheel of cheese when a daughter is born in the family, and not to cut this wheel until her wedding day?

—that the idea of a vitamin alphabet stretching from A to Z is no idle myth? Only a few of the known vitamins are essential in human nutrition, however.

—that dairy products are seldom eaten by the average Chinese? As a consequence, their diets are low in vitamin A, and night-blindness is very common.

THINGS YOU'LL LIKE TO READ

DIETS OF FAMILIES OF EMPLOYED WAGE EARNERS AND CLERICAL WORKERS IN CITIES—by Hazel K. Stiebeling and Esther F. Phipard. Circular 507, U. S. Department of Agriculture. January 1939.

This new bulletin contains complete details of a diet study of more than 4,000 families in various regions in the United States. Dr. Stiebeling suggests that many present-day diets may be improved not by spending more, but by spending more wisely.

MILK DRINKING HABITS AMONG YOUNG PEOPLE—A Psychological Study Made Cooperatively by the Milk Research Council, Inc. and the University of Newark Research Centre. 1938.

This is the complete report of the study described by Dr. Lazarsfeld on page 11 of this issue of NUTRITION NEWS. Copies of this report are not for general distribution, but interested organizations may address requests to the Milk Research Council, Inc., 22 East 40th St., New York City.

IS AMERICA WELL FED?

(Continued from Page Nine)

It is estimated that one out of every 11 city and village families not on relief spends $1.50 or less a person a week for food. Thus, many families probably are consuming half or less than half of the average quantities of butter and eggs and less than two-thirds of the average quantities of milk and of those vegetables and fruits especially important for minerals and vitamins. Since even averages are below optimal, it is little wonder that children in low-income families often fail to attain the full stature set by heredity, that poor dental conditions are common, and that many have low resistance to disease.

Some families have too little money for food to purchase satisfactory diets, though knowledge of food values in relation to food prices often would improve their selection. Many more spend enough money to buy adequate diets but fail to select wisely enough. This is a challenge to every-one with professional training in food and nutrition. Can we meet it?

Note—A mimeographed sheet containing references to all major items mentioned in NUTRITION NEWS may be obtained on request from the National Dairy Council, Chicago, Illinois.

HAVE YOU HAD YOUR VITAMINS?—by Harry N. Holmes. New York: Farrar & Rinehart, 1938. $1.00.

Dr. Holmes, who was first to isolate vitamin A in pure crystalline form, has written this little book on vitamins for the layman who wants to know what part vitamins play in the maintenance of sound health. The history and significance of the vitamins is dealt with in readable style. The appendix contains a table of food sources, and excellent charts showing the important facts about each vitamin.

A SCIENTIFIC STUDY

(Continued from Page Eleven)

Among the small minority of children who dislike milk, three main types were distinguished. For 26.3%, the difficulties could be traced back to very early troubles at the time of weaning. Concrete incidents which occurred during their school age accounted for the dislike in 36.4%. In 29.4% of the cases, a slowly shifting tendency from milk to other beverages was observed.

Parents are likely to be a factor in the children's milk-drinking habits in three ways: either by their general cultural background, by the examples they set as milk drinkers themselves, or by their direct interference with the habits of their children. The greatest influence of parents is that of example. The more milk parents drink, the more likely are their children to drink milk.

A PRACTICAL PLAN

(Continued from Page Eleven)

calories in the food they have eaten for two days, the teacher has an excellent picture of the food habits of their families.

When all home economists realize that purchasing foods vital to health is much more challenging on a restricted budget than where money is no particular concern, and that appreciation of line, color and design does not depend on costly materials, they will have the understanding necessary to guide their classroom procedure. Their pupils will be able to adapt themselves to life situations, whether they be in social relationships, trades, leisure time activities, or the very complicated task of home making.